

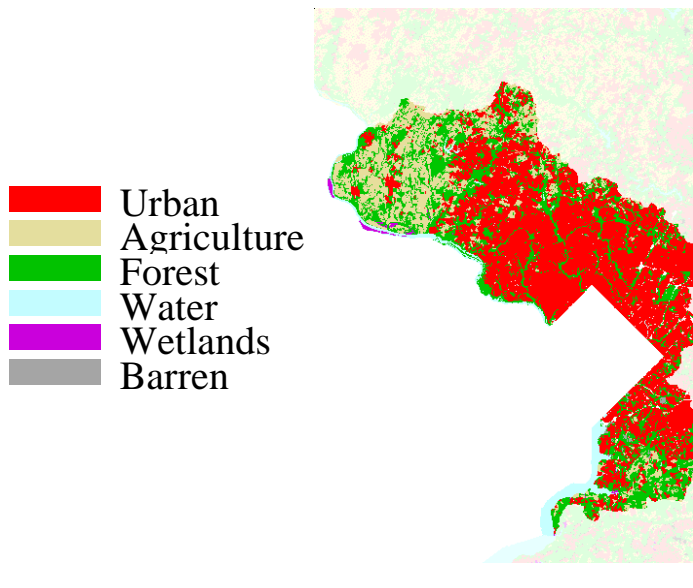
# Middle Potomac River Basin Summary

Executive Summary  
1985-2003 data, February 2005

The Middle Potomac Basin is the most urbanized of the three Potomac basins. It is highly populated with over half of the watershed developed. Point sources (municipal wastewater treatment plants and industrial outputs) contribute most of the nitrogen and urban runoff contributes most of the phosphorus and sediment loads. Blue Plains Wastewater Treatment Plant is by far the largest treatment plant, with flows up to 370 million gallons per day. Blue Plains began implementing biological nutrient removal in October 1996 and was completely on-line by 2000, helping to reduce nitrogen loadings from this plant.

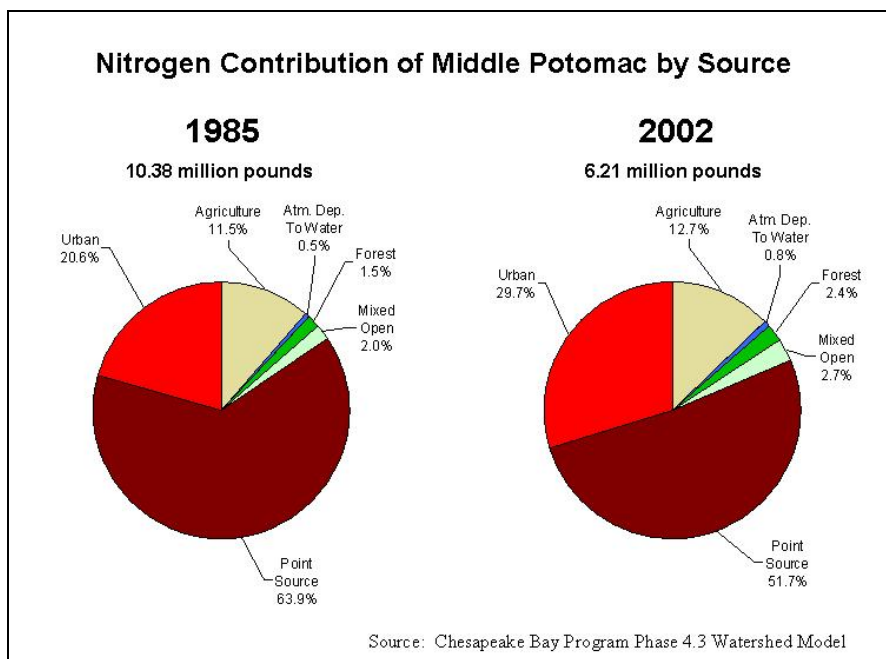
**LOADINGS** (based on watershed model)

## 2000 MDP Land Use



*Modeled nitrogen, phosphorus, and sediment loadings have decreased.*

- Total nitrogen loadings have decreased 40 percent from 1985 to 2002 (down from 10 to 6 million pounds). Point sources are still the dominant source contributing 52 percent of the nitrogen, but urban non-point sources are increasingly important contributing 30 percent of the nitrogen.



- Total phosphorus loadings have decreased 27 percent from 1985 to 2002 (down from around 0.5 to 0.3 million pounds). Urban non-point runoff contributes 60 percent and point sources 17 percent.
- Sediment loadings have declined 27 percent from 1985 to 2002 (down from 105,000 tons to 76,000 tons).

Urban non-point sources contribute 46 percent, and agricultural lands contribute 41 percent.

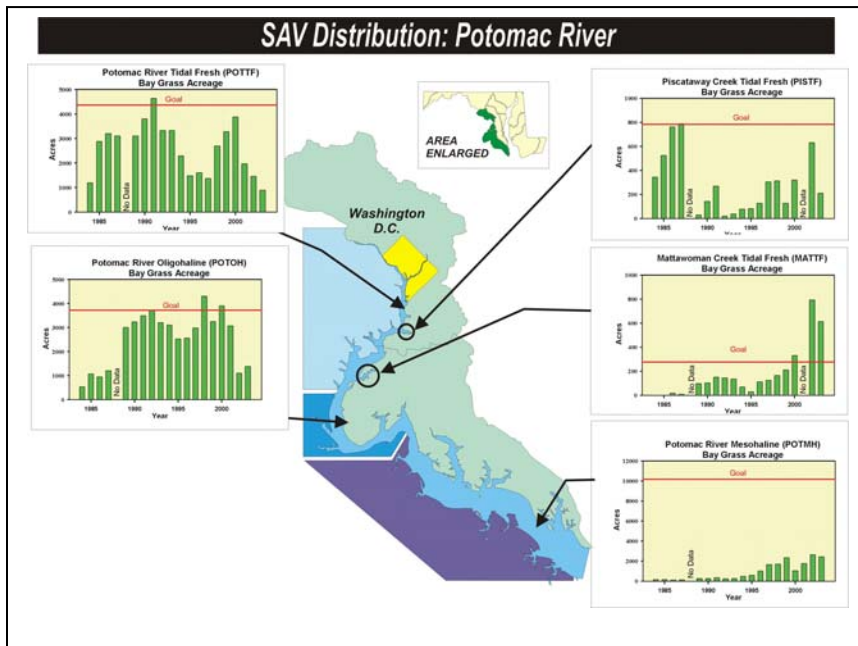
## LONG-TERM TIDAL WATER QUALITY (based on monitoring concentration data)

***Nitrogen levels have improved throughout the basin, but phosphorus and sediment levels generally have not shown improvements. Algal levels have worsened at Piscataway Creek.***

- Commensurate with decreases in loadings, ambient nitrogen levels have declined throughout the basin. However, nitrogen levels remain high (poor) at Seneca Creek, Marshall Hall, Off Piscataway and Piscataway.
- Reductions in phosphorus loadings from 1985 to 2002 have not been adequate to show phosphorus reductions in the water quality data during that same time period. However, the historical record shows that upgrades to wastewater treatment plants in the 1970s did translate into improvements in water quality.
- Despite reductions in ambient nitrogen at Piscataway Creek, algal levels have increased.
- Total suspended solids levels have improved on the Anacostia River.
- Dissolved oxygen levels are good at Marshall Hall and Off Piscataway.
- Continuous monitoring data were collected in 2004 at Fenwick on the Potomac and in Piscataway Creek. See [www.eyesonthebay.net](http://www.eyesonthebay.net).

## BIOLOGICAL and ECOSYSTEM MONITORING

***Bay grasses and biological communities are in poor condition.***



- Bay grass beds in the tidal fresh Potomac and Piscataway Creek have been highly variable, and 2003 acreages were well below the goal.
- Benthic community condition was poor throughout the Potomac River estuary from 1999-2003. No trends are apparent at the Rosier Bluff long-term station, which shows degraded benthos as a result of nutrient over-enrichment.
- All nutrient limitation

stations (Piscataway, Piscataway Creek, Off Piscataway, and Marshall Hall) show nutrient saturation in all seasons.

For more detailed information see the complete basin summary at:

[http://www.dnr.state.md.us/bay/tribstrat/basin\\_summaries.html](http://www.dnr.state.md.us/bay/tribstrat/basin_summaries.html).